The Boeing Company
Santa Susana Field Laboratory
5800 Woolsey Canyon Road
Canoga Park, CA 91304-1148

Via FedEx

August 24, 2016
In reply refer to SHEA-115541

Mr. Ray Leclerc
Project Director
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, CA 95824

Subject: Groundwater Monitoring Progress Report, Second Quarter 2016
Santa Susana Field Laboratory, Ventura County, California

RE: Post-Closure Permit No. PC-94/95-3-02

Dear Mr. Leclerc:

The Boeing Company (Boeing) hereby submits the "Groundwater Monitoring Progress Report, Second Quarter 2016", MWH, dated August 22, 2016. This report summarizes Boeing groundwater monitoring activities conducted at the Santa Susana Field Laboratory (SSFL) located in Ventura County for the period of April 1 through June 30, 2016. The National Aeronautics and Space Administration (NASA) and Department of Energy (DOE) will present their data and findings for the second quarter of 2016 in their own reports for their respective portions of SSFL. The second quarter 2016 groundwater elevation contours presented in this report were developed collaboratively between Boeing, NASA, and DOE.

There are currently 160 on-site monitoring wells, 5 on-site former water supply wells, 36 off-site monitoring wells, and 2 off-site seeps included in the groundwater monitoring program at SSFL for Boeing. Water-producing wells in the monitoring network are sampled in accordance with the referenced Post-Closure Permit, associated regulated unit water quality sampling and analysis plan (WQSAP), and the 2016 Site-Wide Program Groundwater Sampling Plan as presented in a technical memorandum prepared by MWH dated December 15, 2015 and submitted to DTSC by Boeing on January 25, 2016 pursuant to the Site-Wide WQSAP.

I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to evaluate the information submitted. I certify that the information contained in or accompanying this submittal is true, accurate, and complete. As to those identified portion(s) of this submittal for which I cannot personally verify the accuracy, I certify that this submittal and all attachments were prepared in accordance with procedures designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those directly responsible for gathering the information, or the immediate supervisor of such person(s), the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____
Name: David W. Dassler
Title: Southwest Remediation Manager, The Boeing Company
Date: 8-24-16

Enclosures: 1 Report Hardcopy

Distribution: See Attached

SSFL GROUNDWATER PROGRAM MAILING LIST SHEA-115541 August 24, 2016

Groundwater Monitoring Progress Report, Second Quarter 2016

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Groundwater Monitoring Progress Report, Second Quarter 2016

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Groundwater Monitoring Progress Report
Second Quarter 2016
April through June 2016

Santa Susana Field Laboratory
Ventura County, CA

August 22, 2016

Prepared for:

THE BOEING COMPANY

Prepared by:

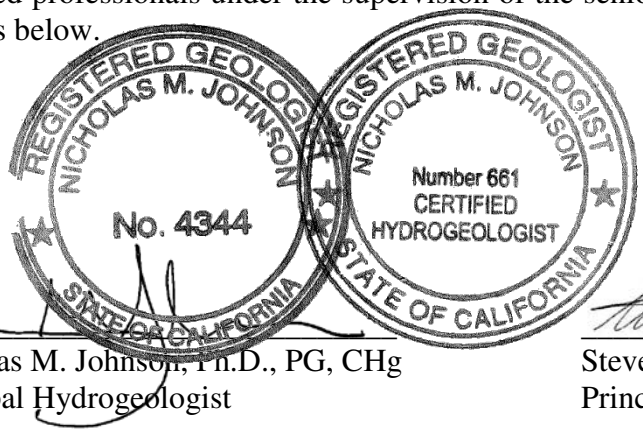
MWH Americas, Inc.
300 N. Lake Avenue, Suite 400
Pasadena, CA 91101

MWH now part of Stantec

PROFESSIONAL CERTIFICATION
Groundwater Monitoring Progress Report
Second Quarter 2016
April through June 2016
Santa Susana Field Laboratory
Ventura County, California

August 22, 2016

This Quarterly Groundwater Monitoring Progress Report has been prepared by a team of qualified professionals under the supervision of the senior staff whose seal and signature appears below.



Nicholas M. Johnson, Ph.D., PG, CHg
Principal Hydrogeologist

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Principal Engineer

Cheryl K. Yee
Senior Environmental Scientist

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EXECUTIVE SUMMARY

This report summarizes The Boeing Company's (Boeing) groundwater monitoring activities conducted during the second quarter of 2016 at the Santa Susana Field Laboratory (SSFL) located in Ventura County, California. The National Aeronautics and Space Administration (NASA) and Department of Energy (DOE) will present their own findings for the second quarter of 2016 in their own reports for their respective portions of SSFL. This report of Boeing's second quarter 2016 groundwater monitoring activities includes the following results and findings:

- Water level measurements were collected in April 2016 and groundwater elevation contours were prepared for this report.
- Well maintenance needs were evaluated.
- Groundwater sampling was not performed because groundwater sampling as prescribed by the Post-Closure Permit (PCP) monitoring program (Regulated Unit monitoring program) for Areas I and III (California Department of Toxic Substances Control [DTSC], 2010; Haley & Aldrich, 2010a) and the Leaking Underground Fuel Tank (LUFT) program is on a semi-annual sampling schedule with sampling occurring in the first and third calendar quarters, and the Site-Wide monitoring program (Haley & Aldrich, 2010b) for 2016 is on an annual schedule with sampling performed in the first calendar quarter, and with a limited number of locations also sampled in the third calendar quarter in accordance with the 2016 Site-Wide Program Groundwater Sampling Plan as presented in a technical memorandum dated December 15, 2015 (MWH, 2015) and submitted to DTSC by Boeing on January 25, 2016 (Boeing, 2016).

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LIST OF ACRONYMS AND ABBREVIATIONS

Boeing	The Boeing Company
CCR	California Code of Regulations
COC	Constituent of Concern
DOE	Department of Energy
DTSC	(California) Department of Toxic Substances Control
FLUTe	Flexible Liner Underground Technologies, LLC
GET	Groundwater Extraction and Treatment
LUFT	leaking underground fuel tank
msl	mean sea level
NASA	National Aeronautics and Space Administration
PCP	Post-Closure Permit
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
SSFL	Santa Susana Field Laboratory
WQSAP	Water Quality Sampling and Analysis Plan

1.0 INTRODUCTION

This report summarizes The Boeing Company's (Boeing) groundwater monitoring activities conducted during the second quarter of 2016 at the Santa Susana Field Laboratory (SSFL) located in Ventura County, California (Figure 1). The National Aeronautics and Space Administration (NASA) and Department of Energy (DOE) will present their data and findings for the second quarter of 2016 in their own reports for their respective portions of SSFL.

Groundwater monitoring during the quarter consisted of gauging under the Post-Closure Permit (PCP) monitoring program for Areas I and III (California Department of Toxic Substances Control [DTSC], 2010; Haley & Aldrich, 2010a) and the Site-Wide monitoring program (Haley & Aldrich, 2010b). Groundwater sampling was not performed during the quarter because groundwater sampling prescribed by the Regulated Unit monitoring program and the Leaking Underground Fuel Tank (LUFT) program is on a semi-annual sampling schedule with sampling occurring in the first and third calendar quarters, and the Site-Wide monitoring program for 2016 is on an annual schedule with sampling performed in the first calendar quarter, and with a limited number of locations also sampled in the third calendar quarter in accordance with the 2016 Site-Wide Program Groundwater Sampling Plan as presented in a technical memorandum dated December 15, 2015 (MWH, 2015) and submitted to DTSC by Boeing on January 25, 2016 (Boeing, 2016).

Monitoring activities conducted during the quarter included:

- Measurement of water levels at all accessible program wells;
- Inspection of well locations for possible maintenance needs; and
- Inspection of seeps in the vicinity of WS-09A.

The scope of this progress report includes the following:

- Summary of water level monitoring activities;
- Summary of modifications made to monitoring equipment during the quarter, if any;
- Summary of current water level data;
- Groundwater elevation contour map from water level data obtained during the calendar quarter;

- Summary of status of seeps in vicinity of well WS-09A; and
- Summary of unresolved issues and/or follow-up work.

The monitoring performed during the quarter and the content of this report are in compliance with the current permit and Water Quality Sampling and Analysis Plans (WQSAPs). The monitoring also complies with the Consent Order for Corrective Action issued on August 16, 2007 by DTSC (DTSC, 2007).

Wells, piezometers, and seeps monitored are listed in Table 1 and are shown on Figure 2.

1.1 WELL MAINTENANCE AND EQUIPMENT MODIFICATIONS

Monitored wells were inspected for maintenance needs during the quarter. Well maintenance was either scheduled to occur prior to the start of sampling in the next sampling quarter or is pending approval of recommended actions. Well maintenance, monitoring equipment modification, and well development activities performed in the second quarter of 2016 are summarized in Table 2.

The FLUTe multilevel system was removed from well RD-50 on March 1, 2016 by DOE to facilitate further data collection for their ongoing Area IV investigations. Well RS-35, which was installed in 2010, continued to contain insufficient water for well development. Well development will be attempted when sufficient water is observed in the well.

2.0 GROUNDWATER MONITORING

Groundwater monitoring activities were conducted for the second quarter of 2016 as described in the WQSAP for Areas I and III (Haley & Aldrich, 2010a) and the Site-Wide WQSAP (Haley & Aldrich, 2010b), with the exceptions noted in this report.

2.1 GROUNDWATER LEVEL GAUGING

Water level measurements for the second quarter of 2016 were obtained on April 11 through April 15, 2016. Water level measurements for the quarter are summarized in Table 3. A total of 182 wells were scheduled for gauging during the quarter. The following nine locations were not gauged for reasons cataloged in Table 3: FDP-835, OS-02, OS-03, OS-04, OS-05, OS-09, OS-16, OS-24, and RD-72. Notes on Table 3 provide water level readings for monitoring locations equipped with Westbay multilevel systems. Low-flow well retrofits and resulting changes in measuring point elevations are presented in Table 4.

2.2 SEEPS IN THE VICINITY OF WS-09A

Boeing and NASA continue to work collaboratively on the management of seeps in the vicinity of WS-09A as these seeps are of relevance to both NASA Area II and Boeing Area III (as well as the southern undeveloped land). Seep locations in the vicinity of WS-09A were inspected during the quarter to monitor for groundwater emergence; a status report is provided in Appendix A. Groundwater extraction from WS-09A ceased in January 2013 and the Area I Groundwater Extraction and Treatment (GET) System was shut off in April 2013 after conclusion of the RD-10 pumping test. To help mitigate groundwater emergence at seeps during operational downtime of extraction well WS-09A, nearby seeps were monitored and accumulated water was pumped and transported off-site for disposal if present.

3.0 RESULTS

3.1 GROUNDWATER ELEVATIONS

Water level elevations are provided in Table 3 and contours of first-encountered, non-perched groundwater elevations, as determined from water levels measured during the second quarter of 2016 (mostly during April), are presented on Figure 3. These second quarter 2016 groundwater elevation contours were developed collaboratively between Boeing, NASA, and DOE. Water levels were measured in April at Boeing-, NASA-, and DOE-sponsored wells, and in May at newly installed wells and Area IV wells from which FLUTe multilevel systems were removed by DOE. Wells and piezometers that typically monitor perched groundwater were identified in the draft groundwater Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) report (MWH, 2009). Additional information used to develop the groundwater elevation contours included topography; the approximate elevations of identified seeps and springs; historical water level data for wells and piezometers not gauged during the second quarter of 2016; and the recognition that groundwater level discontinuities coincide with certain fault segments and other geologic structures.

Non-perched groundwater elevations measured in Boeing SSFL monitoring wells during the second quarter of 2016 ranged from approximately 1,224 feet above mean sea level (msl) at well RD-75 to about 1,829 feet above msl at well RD-67 (Table 3, Figure 3). Groundwater levels measured during the quarter were generally similar to those measured during the first quarter 2016 (MWH, 2016b).

The groundwater elevation contour map is provided to satisfy, in part, the requirements of California Code of Regulations (CCR) Title 22, section 66264.97 for determining groundwater flow rates and directions. A groundwater elevation contour map can be used in simple hydrogeologic settings to depict variations in the elevation of the water table surface, which can in turn be used to interpret apparent relative directions of groundwater flow. However, the groundwater elevation contours depicted on Figure 3 are not used to infer groundwater flow directions or rates of groundwater movement due to the hydrogeologic complexities at SSFL (MWH, 2016a). Estimates of groundwater flow rates and three-dimensional groundwater flow

directions from areas within SSFL are presented in the draft groundwater RFI report (MWH, 2009).

4.0 UNRESOLVED ISSUES AND SCHEDULED FOLLOW-UP WORK

Well development at RS-35 could not be completed due to insufficient water. Development will be attempted the next time sufficient water is observed in the well.

The next sampling event will occur during the third quarter of 2016. In accordance with the PCP and WQSAPs, the sampling frequency for Regulated Unit Program wells will be annual for background parameters and semi-annual for constituents of concern (COCs), except at background monitoring locations which will be sampled annually for COCs. Annual sampling is performed in the first calendar quarter. For Regulated Units with less than four background well results for certain COCs, semi-annual sampling and analysis for those COCs at background monitoring wells will continue until at least four background well results for each COC have been acquired. The monitoring frequency for the Site-Wide Program will be quarterly for water level monitoring, with sampling and analysis performed annually in the first calendar quarter, and with a limited number of locations also sampled in the third calendar quarter in accordance with the 2016 Site-Wide Program Groundwater Sampling Plan as presented in a technical memorandum dated December 15, 2015 (MWH, 2015) and submitted to DTSC by Boeing on January 25, 2016 (Boeing, 2016).

5.0 REFERENCES

Boeing, 2016. Email from Michael Bower (Boeing) to Roger Paulson and Tom Seckington (DTSC) regarding 2016 Sitewide Program Groundwater Sampling. January 25.

California Department of Toxic Substances Control (DTSC), 2007. Docket No. P3-07/08-003, "Consent Order for Corrective Action." August 16.

DTSC, 2010. Post-Closure Permit Modification No. 1, MOD SC3-111904-A for Areas I and III, Santa Susana Field Laboratory, Simi Hills, Ventura County, California. January 5.

Haley & Aldrich, 2010a. "Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-02, Santa Susana Field Laboratory, Ventura County, California." April.

Haley & Aldrich, 2010b. "Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Ventura County, California, Revision 1." December.

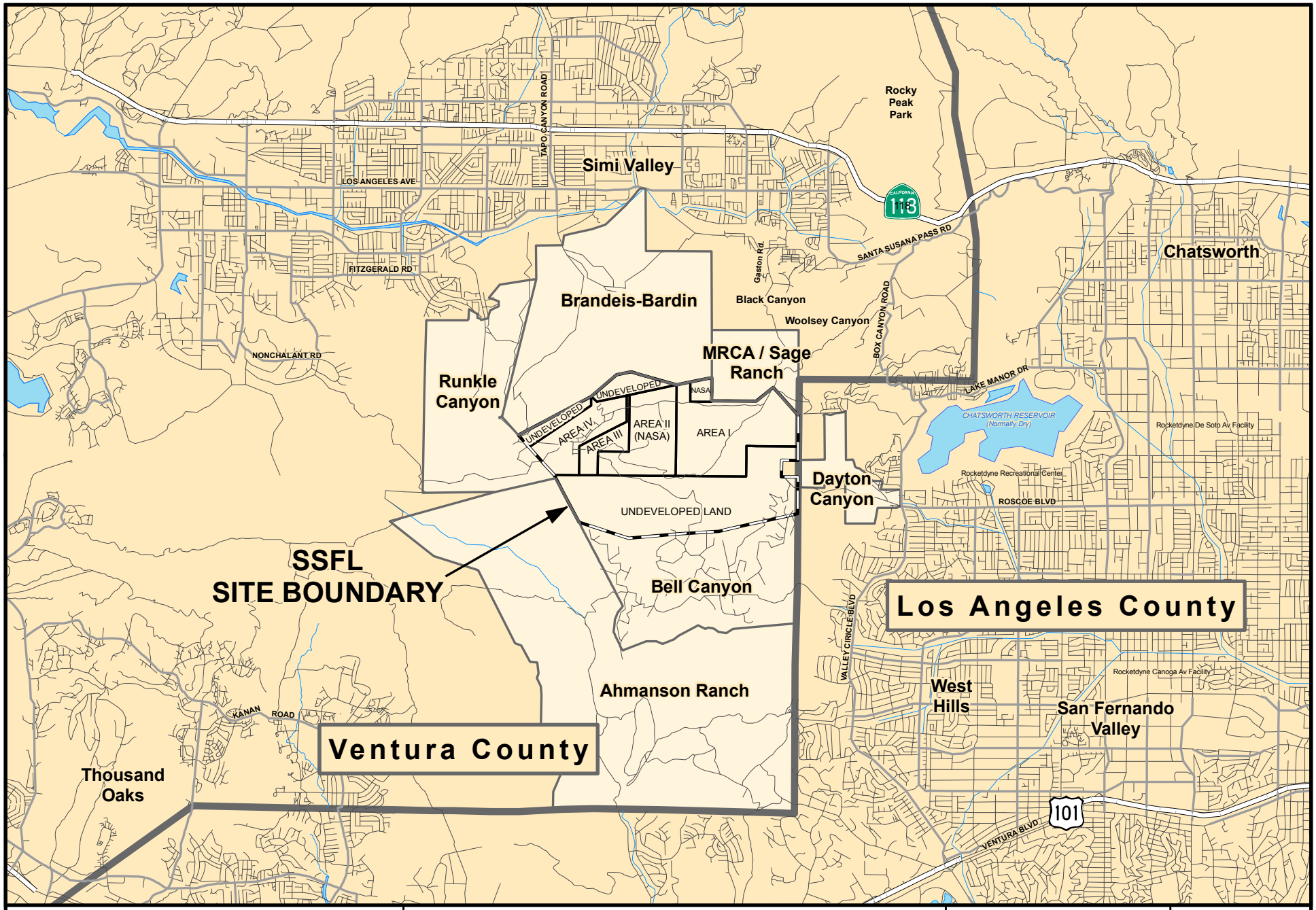
MWH, 2009. "Draft Site-Wide Groundwater Remedial Investigation Report," Santa Susana Field Laboratory, Ventura County, California. December.

MWH, 2015. Technical Memorandum. 2016 Sitewide Program Groundwater Sampling Plan. December 15.

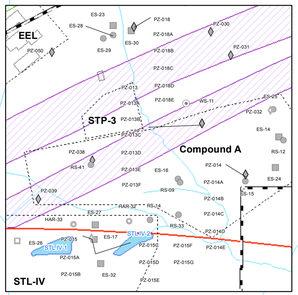
MWH, 2016a. Report on Annual Groundwater Monitoring, 2015, Santa Susana Field Laboratory, Ventura County, California. February 22.

MWH, 2016b. Groundwater Monitoring Progress Report, First Quarter 2016, January through March 2016, Santa Susana Field Laboratory, Ventura County, California. May 25.

FIGURES


Rocky Peak Park
Simi Valley
LOS ANGELES AVE
TAPO CANYON ROAD
FITZGERALD RD
NONCHALANT RD
Brandeis-Bardin
Runkle Canyon
Gaston Rd.
Black Canyon
Woolsey Canyon
SANTA SUSANA PASS RD
BOX CANYON ROAD
Chatsworth
MRCA / Sage Ranch
LAKE MANOR DR
CHATSWORTH RESERVOIR (Normally Dry)
Rocketdyne De Soto Av Facility
Rocketdyne Recreational Center
ROSCOE BLVD
UNDEVELOPED
UNDEVELOPED
NASA
AREA IV
AREA III
AREA II (NASA)
AREA I
Dayton Canyon
UNDEVELOPED LAND
SSFL SITE BOUNDARY
Bell Canyon
Los Angeles County
VALLEY CIRCLE BLVD
Rocketdyne Canoga Av Facility
West Hills
San Fernando Valley
Ahmanson Ranch
KANAN ROAD
Ventura County
Thousand Oaks
101
VENTURA BLVD
1 inch = 1.5 miles
Miles
0
1.5
3
SANTA SUSANA FIELD LABORATORY
Facility Location Map
Figure 1

INSET I



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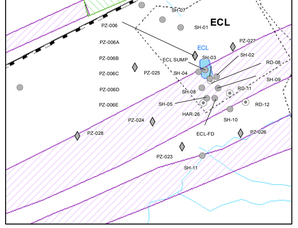

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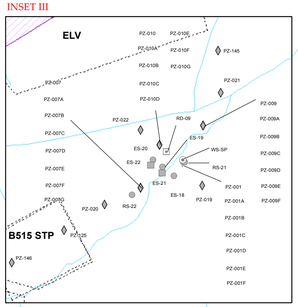

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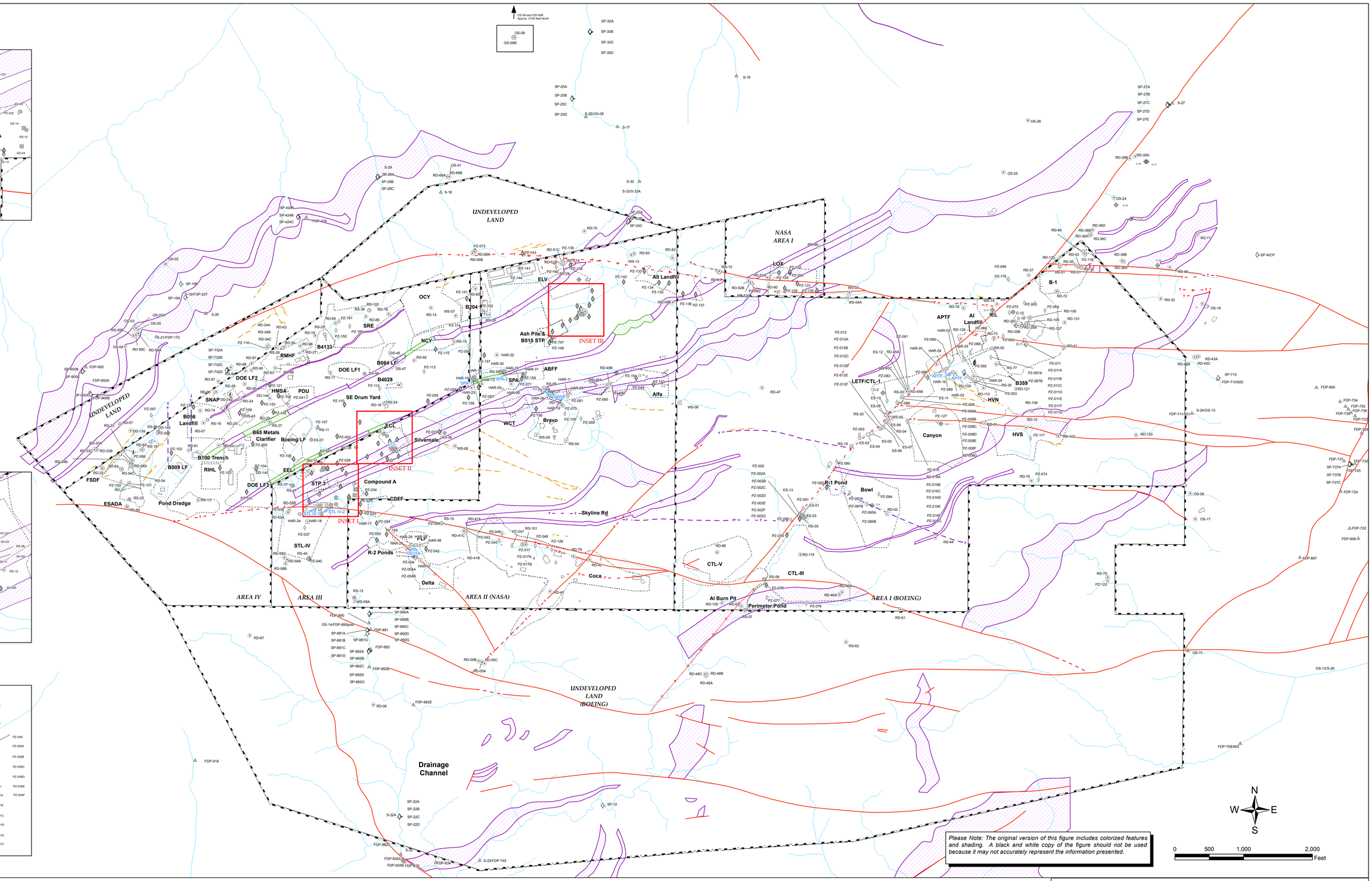

Well Type and Groundwater Zone

Groundwater Extraction Wells

- Groundwater Extraction Well, Perched
- Groundwater Extraction Well, Near Surface (Monitors Regional Water Table)
- Groundwater Extraction Well, Chatsworth Formation

Groundwater Monitoring Wells

- Groundwater Monitoring Well, Perched
- Groundwater Monitoring Well, Near Surface (Monitors Regional Water Table)
- Groundwater Monitoring Well, Chatsworth Formation

Piezometers

- Piezometer, Perched
- Piezometer, Near Surface (Monitors Regional Water Table)
- Piezometer, Chatsworth Formation
- Piezometer, Seep

Seeps/Springs

- Seep/spring

Other

- Abandoned Well
- Core Holes

Basemap

- Administrative Area Boundary
- RI Site Boundary
- Post-Closure Impoundments

Geology

- Faults - Dashed where inferred
- Drainages
- Area in Which FinerGrained Unit May Be Discontinuous
- Finer Grained Unit (shale/siltstone)
- Structure
- Deformation Band

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SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

LOCATIONS OF WELLS, PIEZOMETERS AND SEEPS
FIGURE 2

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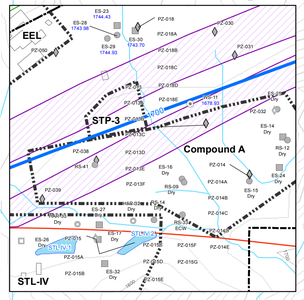

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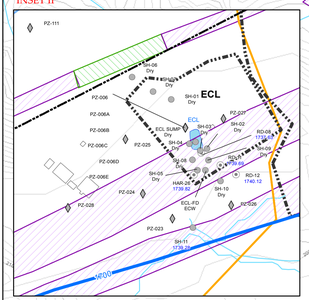

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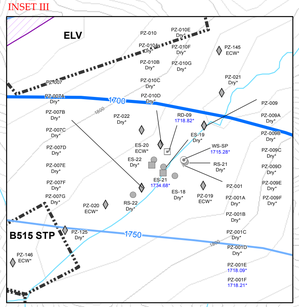

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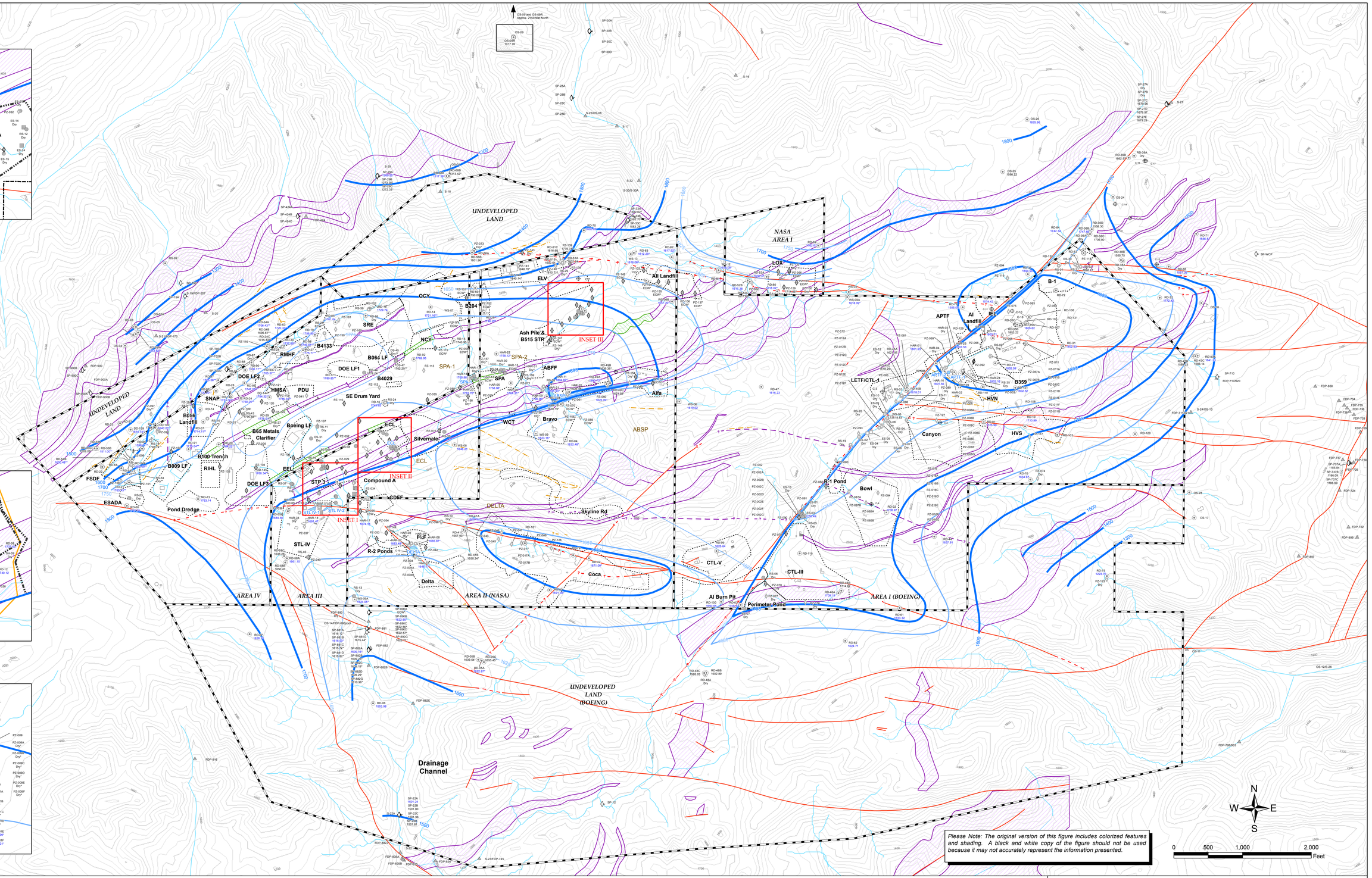

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Well Type and Groundwater Zone

Groundwater Extraction Wells

- Groundwater Extraction Well, Perched
- Groundwater Extraction Well, Near Surface (Monitors Regional Water Table)
- Groundwater Extraction Well, Chatsworth Formation

Groundwater Monitoring Wells

- Groundwater Monitoring Well, Perched
- Groundwater Monitoring Well, Near Surface (Monitors Regional Water Table)
- Groundwater Monitoring Well, Chatsworth Formation

Piezometers

- Piezometer, Perched
- Piezometer, Near Surface (Monitors Regional Water Table)
- Piezometer, Chatsworth Formation
- Piezometer, Seep

Seeps/Springs

- Seep/spring

Other

- Abandoned Well
- Core Holes

Basemap

- Administrative Area Boundary
- RI Site Boundary
- Post-Closure Impoundments

Geology

- Faults - Dashed where inferred
- Drainages
- Structure
- Deformation Band
- Area in Which FinerGrained Unit May Be Discontinuous
- Finer Grained Unit (shale/siltstone)

Approximate Groundwater Elevation Contours (feet above sea level)

- 25-foot Contour
- 50-foot Contour
- 100-foot Contour
- 1629.20 — Groundwater Level Elevation in Feet Above Mean Sea Level
- 1629.20 — Groundwater Level Elevation in Feet Above Mean Sea Level (water level was not used to generate contour line)
- ECW — Water stranded in the well casing end cap; not representative of water level in formation (well is effectively dry)

Information used to develop the groundwater elevation contours includes topography; the approximate elevations of identified seeps and springs; historical water level data for wells and piezometers not gauged during the second quarter of 2016; and the recognition that groundwater level discontinuities coincide with certain fault segments and other geologic structures.
The site-wide groundwater elevation contours presented on this map were developed collaboratively with NASA and DOE. The groundwater elevations shown for NASA-sponsored wells were collected and provided by NASA (indicated with *), and DOE-sponsored wells were collected and provided by DOE (indicated with **),and are presented in their respective second quarter 2016 groundwater monitoring reports. Water levels were measured in April at Boeing, NASA, and DOE –sponsored wells, and in May at newly installed wells and wells from which FLUTe systems were removed in Area IV by DOE.

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SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA
AUGUST 2016

GROUNDWATER ELEVATION CONTOUR MAP
APRIL 2016
FIGURE 3

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U:\BoeingSantaSusana\MXD\GW Monitoring\2016_2Q\Fig03_WaterTable.mxd

FIGURE ABBREVIATIONS

RFI Sites

Group 1A

APTF	Advanced Propulsion Test Facility
AI Landfill	Area I Landfill
B-1	B-1 Area
B359	Building 1359 Area
Canyon	Canyon Area
HVN	Happy Valley North
HVS	Happy Valley South
IEL	Instrument and Equipment Laboratories
LETF/CTL-I	Laser Engineering Test Facility/Component Test Laboratory I

Group 1B

Bowl	Bowl Area
CTL-III	Component Test Laboratory III
CTL-V	Component Test Laboratory V
Perimeter Pond	Perimeter Pond
R-1 Pond	R-1 Pond
AI Burn Pit	Area I Burn Pit

Group 2

AII Landfill	Area II Landfill
Ash Pile & B515 STP	Former Area II Incinerator Ash Pile & Building 515 Sewage Treatment Plant
ELV	Expendable Launch Vehicle
LOX	Liquid Oxygen Plant

Group 3

ABFF	Alfa/Bravo Fuel Farm
Alfa	Alfa Area
B204	Building 204 Area
Bravo	Bravo Area
WCT	Hazardous Waste Coolant Tank
SPA	Storable Propellant Area
Skyline Rd	Skyline Road Area

Group 4

Coca	Coca Area
Delta	Delta Area
PLF	Propellant Load Facility

Group 5

B100 Trench	Building 100 Trench
B65 Metals Clarifier	Building 65 Metals Laboratory Clarifier
Boeing LF	Boeing Area IV Leach Fields
Compound A	Compound A Facility
DOE LF1	Department of Energy Leach Field 1
DOE LF2	Department of Energy Leach Field 2
DOE LF3	Department of Energy Leach Field 3
ECL	Engineering Chemistry Laboratory
EEL	Environmental Effects Laboratory
HMSA	Hazardous Material Storage Area
PDU	Process Development Unit
Pond Dredge	Pond Dredge Area
RIHL	Rockwell International Hot Laboratory
SE Drum Yard	Southeast Drum Storage Yard
SNAP	Systems for Nuclear Auxiliary Power Facility
STL-IV	Systems Test Laboratory IV
STP-3	Area III Sewage Treatment Plant

Group 6

B064 LF	Building 064 Leach Field
NCY	New Conservation Yard
OCY	Old Conservation Yard
SRE	Sodium Reactor Experiment

Group 7

RMHF	Radioactive Materials Handling Facility
B4029	Building 4029 Reactive Metals Storage Yard
B4133	Building 4133 Sodium Burn Facility

Group 8

B009 LF	Building 009 Leach Field
B056 Landfill	Building 056 Landfill
ESADA	Empire State Atomic Development Authority
FSDF	Former Sodium Disposal Facility

Group 9

CDFF	Coca/Delta Fuel Farm
R-2 Ponds	R-2A and R-2B Ponds
Silvernale	Silvernale Resevoir

TABLES

TABLE 1
LIST OF WELLS AND MONITORING PROGRAMS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Previous Well ID	Post-Closure Permit Regulated Unit Monitoring Program [1,2]									Site-Wide Monitoring Program [3]		LUFT Monitoring Program
		Permit for	Regulated Unit	POC	Bkgd	DM	EM	EM (aff)	CAIM	CAIM status	2016 Sampling Program [4,5]	2016 Water Level Monitoring Program	
ECL-FD		Areas I & III	Other Extraction Wells						X	not active		X	
ECL Sump		Areas I & III	Other Extraction Wells						X	not active		X	
ES-01		Areas I & III	Other Extraction Wells						X	not active	X	X	
ES-02												X	
ES-03		Areas I & III	Other Extraction Wells						X	not active		X	
ES-04		Areas I & III	Other Extraction Wells						X	not active		X	
ES-05		Areas I & III	Other Extraction Wells						X	not active		X	
ES-06		Areas I & III	Other Extraction Wells						X	not active	X	X	
ES-07		Areas I & III	Other Extraction Wells						X	not active		X	
ES-08												X	
ES-09												X	
ES-10												X	
ES-11		Areas I & III	Other Extraction Wells						X	not active		X	
ES-12												X	
ES-13												X	
ES-14		Areas I & III	Other Extraction Wells						X	not active	X	X	
ES-15												X	
ES-16												X	
ES-17		Areas I & III	STL-IV-1	X		X	X	X	X	not active		X	
		Areas I & III	STL-IV-2		X								
ES-23		Areas I & III	Other Extraction Wells						X	not active		X	
ES-24		Areas I & III	Other Extraction Wells						X	not active		X	
ES-25												X	
ES-26		Areas I & III	STL-IV-1		X				X	not active		X	
ES-27		Areas I & III	STL-IV-1				X	X	X	not active		X	
ES-28												X	
ES-29											X	X	
ES-30		Areas I & III	Other Extraction Wells						X	not active		X	
ES-31												X	
ES-32		Areas I & III	Other Extraction Wells						X	not active		X	

TABLE 1
LIST OF WELLS AND MONITORING PROGRAMS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Previous Well ID	Post-Closure Permit Regulated Unit Monitoring Program [1,2]									Site-Wide Monitoring Program [3]		LUFT Monitoring Program
		Permit for	Regulated Unit	POC	Bkgd	DM	EM	EM (aff)	CAIM	CAIM status	2016 Sampling Program [4,5]	2016 Water Level Monitoring Program	
FDP-835											X	X	
HAR-01		Areas I & III	APTF-1, APTF-2				X	X				X	
HAR-02		Areas I & III	APTF-1	X		X	X	X				X	
HAR-03		Areas I & III	APTF-1, APTF-2				X	X				X	
HAR-04		Areas I & III	APTF-2				X	X	X	not active		X	
HAR-16		Areas I & III	APTF-1, APTF-2	X		X	X	X	X	not active		X	
HAR-17		Areas I & III	Other Extraction Wells						X	not active		X	
HAR-18		Areas I & III	Other Extraction Wells						X	not active		X	
HAR-24												X	
HAR-25		Areas I & III	APTF-1, APTF-2				X					X	
HAR-26		Areas I & III	ECL				X	X				X	
HAR-32		Areas I & III	STL-IV-1, STL-IV-2				X					X	
HAR-33		Areas I & III	STL-IV-1				X	X				X	
HAR-34												X	
OS-02											X	X	
OS-03											X	X	
OS-04											X	X	
OS-05											X	X	
OS-09												X	
OS-09R											X	X	
OS-13											X	X	
OS-16											X	X	
OS-24												X	
OS-25											X	X	
OS-26												X	
PZ-035		Areas I & III	STL-IV-2				X	X				X	
PZ-074											X	X	
PZ-076											X	X	
PZ-077											X	X	
PZ-078												X	

TABLE 1
LIST OF WELLS AND MONITORING PROGRAMS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Previous Well ID	Post-Closure Permit Regulated Unit Monitoring Program [1,2]									Site-Wide Monitoring Program [3]		LUFT Monitoring Program
		Permit for	Regulated Unit	POC	Bkgd	DM	EM	EM (aff)	CAIM	CAIM status	2016 Sampling Program [4,5]	2016 Water Level Monitoring Program	
PZ-089		Areas I & III	APTF-2	X		X	X	X				X	
PZ-123											X	X	
RD-01		Areas I & III	Other Extraction Wells						X	not active	X	X	
RD-02		Areas I & III	Other Extraction Wells						X	not active	X	X	
RD-03		Areas I & III	APTF-1, APTF-2				X					X	
RD-06		Areas I & III	STL-IV-1, STL-IV-2				X					X	
RD-08		Areas I & III	ECL				X	X				X	
RD-10											X	X	
RD-11		Areas I & III	ECL				X	X				X	
RD-12		Areas I & III	ECL				X	X				X	
RD-13											X	X	
RD-15												X	
RD-16												X	
RD-18											X	X	
RD-31												X	
RD-32											X	X	X
RD-35A												X	
RD-35B												X	
RD-36A		Areas I & III	APTF-1, APTF-2				X					X	X
RD-36B		Areas I & III	APTF-1, APTF-2				X					X	X
RD-36C		Areas I & III	APTF-1, APTF-2				X					X	X
RD-36D		Areas I & III	APTF-1, APTF-2				X					X	X
RD-37		Areas I & III	APTF-1, APTF-2				X					X	X
RD-38A		Areas I & III	APTF-1, APTF-2				X					X	X
RD-38B		Areas I & III	APTF-1, APTF-2				X					X	X
RD-39A		Areas I & III	APTF-1, APTF-2				X					X	
RD-39B		Areas I & III	APTF-1, APTF-2				X					X	
RD-43A		Areas I & III	APTF-1, APTF-2				X					X	
RD-43B		Areas I & III	APTF-1, APTF-2				X					X	
RD-43C		Areas I & III	APTF-1, APTF-2				X					X	

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SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Previous Well ID	Post-Closure Permit Regulated Unit Monitoring Program [1,2]									Site-Wide Monitoring Program [3]		LUFT Monitoring Program
		Permit for	Regulated Unit	POC	Bkgd	DM	EM	EM (aff)	CAIM	CAIM status	2016 Sampling Program [4,5]	2016 Water Level Monitoring Program	
RD-44											X	X	
RD-45A		Areas I & III	APTF-1, APTF-2				X					X	
RD-45B		Areas I & III	APTF-1, APTF-2				X					X	
RD-45C		Areas I & III	APTF-1, APTF-2				X					X	
RD-46A		Areas I & III	APTF-1, APTF-2				X					X	
RD-46B		Areas I & III	APTF-1, APTF-2				X					X	
RD-47												X	
RD-48A		Areas I & III	APTF-1, APTF-2				X					X	
RD-48B		Areas I & III	APTF-1, APTF-2				X					X	
RD-48C		Areas I & III	APTF-1, APTF-2				X					X	
RD-50											X	X	
RD-51A		Areas I & III	APTF-1, APTF-2				X					X	
RD-51B		Areas I & III	APTF-1, APTF-2				X					X	
RD-51C		Areas I & III	APTF-1, APTF-2				X					X	
RD-52A		Areas I & III	APTF-1, APTF-2				X					X	
RD-52B		Areas I & III	APTF-1, APTF-2				X					X	
RD-52C		Areas I & III	APTF-1, APTF-2				X					X	
RD-53		Areas I & III	APTF-1, APTF-2				X					X	X
RD-55A		Areas I & III	STL-IV-1, STL-IV-2				X					X	
RD-55B		Areas I & III	STL-IV-1, STL-IV-2				X					X	
RD-58A		Areas I & III	STL-IV-1, STL-IV-2				X					X	
RD-58B		Areas I & III	STL-IV-1, STL-IV-2				X					X	
RD-58C		Areas I & III	STL-IV-1, STL-IV-2				X					X	
RD-60											X	X	
RD-61											X	X	
RD-62											X	X	
RD-66											X	X	
RD-67												X	
RD-71												X	
RD-72												X	

TABLE 1
LIST OF WELLS AND MONITORING PROGRAMS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Previous Well ID	Post-Closure Permit Regulated Unit Monitoring Program [1,2]									Site-Wide Monitoring Program [3]		LUFT Monitoring Program
		Permit for	Regulated Unit	POC	Bkgd	DM	EM	EM (aff)	CAIM	CAIM status	2016 Sampling Program [4,5]	2016 Water Level Monitoring Program	
RD-73												X	X
RD-75											X	X	
RD-76											X	X	
RD-77		Areas I & III	APTF-1, APTF-2		X							X	
RD-78											X	X	
RD-84												X	
RD-85											X	X	
RD-86											X	X	
RD-92												X	
RD-103											X		
RD-120											X		
RD-121											X	X	
RD-129											X		
RD-131											X		
RS-01												X	X
RS-02												X	
RS-03												X	
RS-04												X	
RS-05												X	
RS-06												X	
RS-07		Areas I & III	APTF-1, APTF-2				X					X	
RS-09												X	
RS-11												X	
RS-12												X	
RS-13		Areas I & III	STL-IV-1, STL-IV-2				X					X	
RS-14		Areas I & III	STL-IV-2			X	X	X				X	
RS-15												X	
RS-17												X	
RS-19												X	
RS-20												X	

TABLE 1
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SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Previous Well ID	Post-Closure Permit Regulated Unit Monitoring Program [1,2]									Site-Wide Monitoring Program [3]		LUFT Monitoring Program
		Permit for	Regulated Unit	POC	Bkgd	DM	EM	EM (aff)	CAIM	CAIM status	2016 Sampling Program [4,5]	2016 Water Level Monitoring Program	
RS-23												X	
RS-24												X	
RS-30												X	X
RS-31												X	X
RS-32												X	X
RS-33	PC-01	Areas I & III	STL-IV-2	X		X	X	X				X	
RS-35	PZ-003	Areas I & III	APTF-1, APTF-2		X							X	
SH-01												X	
SH-02		Areas I & III	ECL			X						X	
SH-03		Areas I & III	ECL	X		X	X	X				X	
SH-04		Areas I & III	ECL				X	X				X	
SH-05												X	
SH-06												X	
SH-07		Areas I & III	ECL		X							X	
SH-08												X	
SH-09		Areas I & III	ECL			X	X	X				X	
SH-10												X	
SH-11		Areas I & III	ECL				X	X				X	
SP-12											X		
SP-22A											X	X	
SP-22B											X	X	
SP-22C											X	X	
SP-22D											X	X	
SP-27A											X	X	
SP-27B											X	X	
SP-27C											X	X	
SP-27D											X	X	
SP-27E											X	X	
SP-424A											X		
SP-424B											X		

TABLE 1
LIST OF WELLS AND MONITORING PROGRAMS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well ID	Previous Well ID	Post-Closure Permit Regulated Unit Monitoring Program [1,2]								Site-Wide Monitoring Program [3]		LUFT Monitoring Program
		Permit for	Regulated Unit	POC	Bkgd	DM	EM	EM (aff)	CAIM	CAIM status	2016 Sampling Program [4,5]	2016 Water Level Monitoring Program	
SP-424C											X		
SP-737A											X	X	
SP-737B											X	X	
SP-737C											X	X	
SP-881A											X		
SP-881B											X		
SP-881C											X		
SP-881D											X		
SP-881G											X		
SP-882A											X		
SP-882B											X		
SP-882C											X		
SP-882D											X		
SP-882G											X		
SP-890A											X		
SP-890B											X		
SP-890C											X		
SP-890D											X		
SP-890G											X		
WS-05		Areas I & III	Other Extraction Wells						X	not active		X	
WS-06		Areas I & III	Other Extraction Wells						X	not active		X	
WS-08												X	
WS-11												X	
WS-14												X	
TOTALS: ***203***		***83***		***6***	***5***	***9***	***58***	***20***	***25***	***0***	***70***	***180***	***14***

TABLE 1
LIST OF WELLS AND MONITORING PROGRAMS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

NOTES AND ABBREVIATIONS

POC	Point of Compliance
Bkgd	Background
DM	Detection Monitoring
EM	Evaluation Monitoring
EM (aff)	Evaluation Monitoring (affected media)
CAIM	Corrective Action Interim Measures
LUFT	Leaking Underground Fuel Tanks

[1] California Department of Toxic Substances Control (DTSC), 2010. Hazardous Waste Facility Post-Closure Permit, Regional Permit Number PC 94/95-3-02. Permit for Areas I and III, revised January 5, 2010.

[2] Haley & Aldrich, 2010. Regulated Unit Water Quality Sampling and Analysis Plan, Areas I and III, Post-Closure Permit PC-94/95-3-02, Santa Susana Field Laboratory, Ventura County, California, April.

[3] Haley & Aldrich, 2010. Site-Wide Water Quality Sampling and Analysis Plan, Santa Susana Field Laboratory, Simi Hills, Ventura County, California, Revision 1, File No. 20090-456/556/656/M489. December.

[4] MWH, 2015. Technical Memorandum. 2016 Sitewide Program Groundwater Sampling Plan. December 15.

[5] Boeing, 2016. Email from Michael Bower (Boeing) to Roger Paulson and Tom Seckington (DTSC), regarding proposed 2016 Sitewide Program Groundwater Sampling. January 25.

TABLE 2
MODIFICATIONS TO MONITORING WELL NETWORK AND EQUIPMENT, SECOND QUARTER 2016
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

WELL MAINTENANCE

Well ID	Monitoring Program	Quarter Identified	Issue Identification Date	Issue	Issue Resolution	Quarter Resolved	Issue Resolution Date
PZ-039	-- [a]	2013Q3	7/12/2013	Casing melted; cannot be gauged or sampled.	Cutting and splicing of new casing, and reconstruction of wellhead, as necessary, recommended.	Pending	Pending
PZ-072	-- [a]	2012Q1	1/9/2012	Well casing melted at surface. After wellhead demo and cutting off casing just above grade, discovered that the casing melted/collapsed below grade level.	This piezometer was recently replaced by well RS-39. Destruction/abandonment recommended.	Pending	Pending
RD-61	SW	2015Q4	10/7/2015	Possible bridge or partial collapse near bottom of well. Pump was removed on 1/14/2016. Downhole video taken on 1/21/2016 shows possible obstructions (wires and tubing) at approximately 125 feet below ground surface.	Clearing of obstruction and well redevelopment completed.	2016Q2	6/23/2016
RD-102	-- [a]	2014Q1	2/4/2014	Obstruction at ~75'; Hole likely has collapsed.	Clearing of obstruction and well redevelopment completed.	2016Q2	6/27/2016

EQUIPMENT MODIFICATIONS

Well ID	Monitoring Program	Quarter	Modification Date	Description
RD-50	SW	2016Q1	3/1/2016	FLUTe multilevel system removed

WELL DEVELOPMENT

Well ID	Monitoring Program	Quarter	Development Date	Description
RS-35	RU Area I & III, SW [b]	Pending	Pending	Well contained insufficient water for development

NOTES AND ABBREVIATIONS

-- not applicable
RU - Regulated Unit
SW - Site-Wide

a - Well not monitored as part of Regulated Unit or Site-Wide Groundwater Monitoring Programs
b - Well monitored under Site-Wide Program for groundwater levels only

TABLE 3
WATER LEVEL DATA, SECOND QUARTER 2016
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well Identifier	Geological Unit	Measuring Point Elevation (feet above MSL)	Date of Measurement	Depth to Water (feet BTOC)	Static Water Level Elevation (feet above MSL)	Notes
ECL Sump	Shallow	1511.00	04/11/2016	Dry	--	
ECL-FD	Shallow	1525.00	04/15/2016	ECW	--	
ES-01	Shallow	1782.70	04/11/2016	Dry	--	
ES-02	Shallow	1814.60	04/11/2016	Dry	--	
ES-03	Shallow	1783.39	04/11/2016	24.90	1758.49	
ES-04	Shallow	1817.24	04/11/2016	Dry	--	
ES-05	Shallow	1818.13	04/11/2016	Dry	--	
ES-06	Shallow	1825.41	04/11/2016	Dry	--	
ES-07	Shallow	1826.53	04/11/2016	Dry	--	
ES-08	Shallow	1826.60	04/11/2016	Dry	--	
ES-09	Shallow	1827.80	04/11/2016	Dry	--	
ES-10	Shallow	1829.46	04/11/2016	Dry	--	
ES-11	Shallow	1835.07	04/11/2016	Dry	--	
ES-12	Shallow	1838.19	04/11/2016	Dry	--	
ES-13	Shallow	1782.58	04/11/2016	Dry	--	
ES-14	Shallow	1727.85	04/12/2016	Dry	--	
ES-15	Shallow	1730.21	04/12/2016	Dry	--	
ES-16	Shallow	1737.90	04/12/2016	Dry	--	
ES-17	Shallow	1739.24	04/12/2016	Dry	--	
ES-23	Shallow	1760.73	04/11/2016	16.30	1744.43	
ES-24	Shallow	1728.67	04/12/2016	Dry	--	
ES-25	Shallow	1737.78	04/12/2016	Dry	--	
ES-26	Shallow	1748.04	04/11/2016	Dry	--	
ES-27	Shallow	1740.34	04/11/2016	Dry	--	
ES-28	Shallow	1759.15	04/11/2016	15.17	1743.98	
ES-29	Shallow	1761.06	04/11/2016	16.13	1744.93	
ES-30	Shallow	1759.51	04/11/2016	15.81	1743.70	
ES-31	Shallow	1787.01	04/12/2016	Dry	--	
ES-32	Shallow	1740.65	04/11/2016	Dry	--	
FDP-835	Seep	--	04/13/2016	UTM	--	(*)
HAR-01	Chatsworth	1874.88	04/12/2016	73.65	1801.23	
HAR-02	Shallow	1886.38	04/12/2016	Dry	--	
HAR-03	Shallow	1875.35	04/12/2016	Dry	--	
HAR-04	Shallow	1873.75	04/12/2016	Dry	--	
HAR-16	Chatsworth	1872.61	04/13/2016	71.05	1801.56	
HAR-17	Chatsworth	1711.59	04/12/2016	37.43	1674.16	
HAR-18	Chatsworth	1746.64	04/12/2016	55.17	1691.47	
HAR-24	Chatsworth	1907.46	04/15/2016	105.30	1802.16	
HAR-25	Chatsworth	1890.35	04/13/2016	86.82	1803.53	

TABLE 3
WATER LEVEL DATA, SECOND QUARTER 2016
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well Identifier	Geological Unit	Measuring Point Elevation (feet above MSL)	Date of Measurement	Depth to Water (feet BTOC)	Static Water Level Elevation (feet above MSL)	Notes
HAR-26	Chatsworth	1763.46	04/11/2016	23.64	1739.82	
HAR-32	Shallow	1736.49	04/11/2016	Dry	--	
HAR-33	Shallow	1744.56	04/11/2016	Dry	--	
HAR-34	Shallow	1751.17	04/11/2016	Dry	--	
OS-02	Chatsworth	1237.01	04/13/2016	Not Applicable	--	(*I)
OS-03	Chatsworth	1298.15	04/13/2016	Not Applicable	--	(*I)
OS-04	Chatsworth	1334.00	04/13/2016	Not Applicable	--	(*I)
OS-05	Chatsworth	1312.08	04/13/2016	Not Applicable	--	(*I)
OS-09	Chatsworth	--	04/14/2016	Not Applicable	--	(*I)
OS-09R	Chatsworth	1018.07	Westbay			(1)
OS-13	Seep	--	04/13/2016	Dry	--	
OS-16	Chatsworth	1785.05	04/13/2016	UTM	--	(*)
OS-24	Chatsworth	1947.30	04/13/2016	UTM	--	(*)
OS-25	Chatsworth	2043.58	04/12/2016	445.36	1598.22	
OS-26	Chatsworth	2080.58	04/12/2016	254.92	1825.66	
PZ-035	Shallow	1712.96	04/12/2016	ECW	--	
PZ-074	Shallow	1772.73	04/12/2016	Dry	--	
PZ-076	Shallow	1767.09	04/11/2016	Dry	--	
PZ-077	Shallow	1753.42	04/11/2016	Dry	--	
PZ-078	Shallow	1755.77	04/11/2016	Dry	--	
PZ-089	Shallow	1876.64	04/12/2016	Dry	--	
PZ-123	Shallow	1610.81	04/12/2016	Dry	--	
RD-01	Chatsworth	1933.45	04/12/2016	207.46	1725.99	
RD-02	Chatsworth	1873.89	04/11/2016	164.92	1708.97	
RD-03	Chatsworth	1743.53	04/11/2016	34.72	1708.81	
RD-06	Chatsworth	1617.22	04/11/2016	63.24	1553.98	
RD-08	Chatsworth	1763.70	04/11/2016	26.07	1737.63	
RD-10	Chatsworth	1904.48	04/12/2016	190.49	1713.99	
RD-11	Chatsworth	1762.84	04/11/2016	23.15	1739.69	
RD-12	Chatsworth	1763.12	04/11/2016	23.00	1740.12	
RD-13	Chatsworth	1840.01	04/12/2016	76.87	1763.14	
RD-15	Chatsworth	1817.70	04/12/2016	73.75	1743.95	
RD-16	Chatsworth	1808.99	04/12/2016	59.16	1749.83	
RD-18	Chatsworth	1839.51	04/12/2016	109.77	1729.74	
RD-31	Chatsworth	1945.02	Westbay			(1)
RD-32	Chatsworth	1808.15	04/12/2016	35.73	1772.42	
RD-35A	Chatsworth	1907.35	04/13/2016	101.73	1805.62	
RD-35B	Chatsworth	1905.58	04/13/2016	102.36	1803.22	
RD-36A	Chatsworth	1913.03	04/12/2016	Dry	--	

TABLE 3
WATER LEVEL DATA, SECOND QUARTER 2016
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well Identifier	Geological Unit	Measuring Point Elevation (feet above MSL)	Date of Measurement	Depth to Water (feet BTOC)	Static Water Level Elevation (feet above MSL)	Notes
RD-36B	Chatsworth	1915.54	04/12/2016	167.85	1747.69	
RD-36C	Chatsworth	1913.80	04/12/2016	207.00	1706.80	
RD-36D	Chatsworth	1920.23	04/12/2016	361.93	1558.30	
RD-37	Chatsworth	1869.61	04/12/2016	274.71	1594.90	
RD-38A	Chatsworth	1879.62	04/12/2016	Dry	--	
RD-38B	Chatsworth	1880.96	04/12/2016	325.21	1555.75	
RD-39A	Chatsworth	1960.53	04/12/2016	Dry	--	
RD-39B	Chatsworth	1959.73	04/12/2016	296.76	1662.97	
RD-43A	Chatsworth	1680.66	04/12/2016	39.43	1641.23	
RD-43B	Chatsworth	1680.11	04/12/2016	90.88	1589.23	
RD-43C	Chatsworth	1680.11	04/12/2016	96.97	1583.14	
RD-44	Chatsworth	2036.04	04/11/2016	398.13	1637.91	
RD-45A	Chatsworth	1841.59	04/11/2016	219.62	1621.97	
RD-45B	Chatsworth	1840.01	04/11/2016	222.00	1618.01	
RD-45C	Chatsworth	1836.33	04/11/2016	218.04	1618.29	
RD-46A	Chatsworth	1803.59	04/11/2016	94.40	1709.19	
RD-46B	Chatsworth	1806.93	04/11/2016	92.31	1714.62	
RD-47	Chatsworth	2045.72	04/12/2016	429.49	1616.23	
RD-48A	Chatsworth	1736.61	04/11/2016	Dry	--	
RD-48B	Chatsworth	1735.73	04/11/2016	132.84	1602.89	
RD-48C	Chatsworth	1735.10	04/12/2016	170.07	1565.03	
RD-50	Chatsworth	1914.88	04/04/2016	127.10	1787.78	(**)
RD-51A	Chatsworth	1832.84	04/12/2016	230.60	1602.24	
RD-51B	Chatsworth	1832.76	04/12/2016	232.25	1600.51	
RD-51C	Chatsworth	1831.56	04/12/2016	214.88	1616.68	
RD-52A	Chatsworth	1755.17	04/12/2016	124.80	1630.37	
RD-52B	Chatsworth	1712.15	04/12/2016	94.77	1617.38	
RD-52C	Chatsworth	1713.15	04/12/2016	95.32	1617.83	
RD-53	Chatsworth	1909.33	04/13/2016	Dry	--	
RD-55A	Chatsworth	1755.78	04/11/2016	71.22	1684.56	
RD-55B	Chatsworth	1757.15	04/11/2016	76.30	1680.85	
RD-58A	Chatsworth	1756.02	04/11/2016	94.87	1661.15	
RD-58B	Chatsworth	1761.47	04/11/2016	111.00	1650.47	
RD-58C	Chatsworth	1759.19	04/11/2016	122.91	1636.28	
RD-60	Chatsworth	1869.88	04/12/2016	119.81	1750.07	
RD-61	Chatsworth	1845.74	04/11/2016	122.42	1723.32	
RD-62	Chatsworth	1837.27	04/11/2016	212.56	1624.71	
RD-66	Chatsworth	1731.06	04/12/2016	173.80	1557.26	
RD-67	Chatsworth	1901.66	04/11/2016	72.96	1828.70	

TABLE 3
WATER LEVEL DATA, SECOND QUARTER 2016
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well Identifier	Geological Unit	Measuring Point Elevation (feet above MSL)	Date of Measurement	Depth to Water (feet BTOC)	Static Water Level Elevation (feet above MSL)	Notes
RD-71	Chatsworth	1740.02	04/12/2016	183.51	1556.51	
RD-72	Chatsworth	1903.84	04/13/2016	UTM	--	(*)
RD-73	Chatsworth	1901.65	04/13/2016	97.94	1803.71	
RD-75	Chatsworth	1613.07	04/12/2016	389.37	1223.70	
RD-76	Chatsworth	1772.38	04/12/2016	137.71	1634.67	
RD-77	Chatsworth	1918.60	04/13/2016	116.01	1802.59	
RD-78	Chatsworth	1819.58	04/12/2016	224.53	1595.05	
RD-84	Chatsworth	1902.70	04/13/2016	160.36	1742.34	
RD-85	Chatsworth	1849.36	04/12/2016	88.32	1761.04	
RD-86	Chatsworth	1832.16	04/12/2016	Dry	--	
RD-92	Chatsworth	1833.74	04/12/2016	70.79	1762.95	
RD-99	Chatsworth	1896.36	04/11/2016	270.72	1625.64	
RD-100	Chatsworth	1767.79	04/11/2016	117.14	1650.65	
RD-121	Chatsworth	1960.30	04/11/2016	157.78	1802.52	
RS-01	Shallow	1879.68	04/15/2016	Dry	--	
RS-02	Shallow	1901.08	04/13/2016	Dry	--	
RS-03	Shallow	1834.22	04/11/2016	Dry	--	
RS-04	Shallow	1826.56	04/11/2016	Dry	--	
RS-05	Shallow	1783.73	04/11/2016	Dry	--	
RS-06	Shallow	1757.43	04/11/2016	Dry	--	
RS-07	Shallow	1732.27	04/11/2016	Dry	--	
RS-09	Shallow	1735.52	04/12/2016	Dry	--	
RS-11	Shallow	1790.39	04/12/2016	Dry	--	
RS-12	Shallow	1727.48	04/12/2016	Dry	--	
RS-13	Shallow	1645.13	04/11/2016	Dry	--	
RS-14	Shallow	1734.78	04/12/2016	Dry	--	
RS-15	Shallow	1764.86	04/12/2016	Dry	--	
RS-17	Shallow	1766.52	04/11/2016	Dry	--	
RS-19	Shallow	1812.42	04/11/2016	Dry	--	
RS-20	Shallow	1823.77	04/11/2016	Dry	--	
RS-23	Shallow	1887.25	04/12/2016	Dry	--	
RS-24	Shallow	1809.24	04/12/2016	Dry	--	
RS-30	Shallow	1909.01	04/13/2016	Dry	--	
RS-31	Shallow	1909.03	04/13/2016	Dry	--	
RS-32	Shallow	1908.99	04/13/2016	16.82	1892.17	
RS-33	Shallow	1728.89	04/12/2016	ECW	--	
RS-35	Shallow	1900.07	04/13/2016	Dry	--	
SH-01	Shallow	1772.84	04/11/2016	Dry	--	
SH-02	Shallow	1762.76	04/11/2016	Dry	--	

TABLE 3
WATER LEVEL DATA, SECOND QUARTER 2016
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well Identifier	Geological Unit	Measuring Point Elevation (feet above MSL)	Date of Measurement	Depth to Water (feet BTOC)	Static Water Level Elevation (feet above MSL)	Notes
SH-03	Shallow	1762.53	04/11/2016	Dry	--	
SH-04	Shallow	1765.08	04/11/2016	Dry	--	
SH-05	Shallow	1762.97	04/11/2016	Dry	--	
SH-06	Shallow	1776.99	04/11/2016	Dry	--	
SH-07	Shallow	1775.11	04/11/2016	Dry	--	
SH-08	Shallow	1763.25	04/11/2016	Dry	--	
SH-09	Shallow	1761.19	04/11/2016	Dry	--	
SH-10	Shallow	1757.69	04/12/2016	Dry	--	
SH-11	Shallow	1756.00	04/11/2016	16.72	1739.28	
SP-22A	Chatsworth	1505.63	04/13/2016	4.39	1501.24	
SP-22B	Chatsworth	1505.94	04/13/2016	4.14	1501.80	
SP-22C	Chatsworth	1505.73	04/13/2016	3.77	1501.96	
SP-22D	Chatsworth	1505.55	04/13/2016	3.74	1501.81	
SP-27A	Chatsworth	1705.74	04/14/2016	Dry	--	
SP-27B	Chatsworth	1697.64	04/14/2016	Dry	--	
SP-27C	Chatsworth	1705.34	04/14/2016	25.38	1679.96	
SP-27D	Chatsworth	1698.11	04/14/2016	18.14	1679.97	
SP-27E	Chatsworth	1698.22	04/14/2016	18.93	1679.29	
SP-737A	Chatsworth	1186.90	04/13/2016	1.06	1185.84	
SP-737B	Chatsworth	1187.89	04/13/2016	1.80	1186.09	
SP-737C	Chatsworth	1188.09	04/13/2016	1.10	1186.99	
WS-05	Chatsworth	1830.20	04/11/2016	211.37	1618.83	
WS-06	Chatsworth	1932.72	04/12/2016	313.70	1619.02	
WS-08	Chatsworth	1794.39	04/12/2016	148.18	1646.21	
WS-11	Chatsworth	1748.70	04/12/2016	69.77	1678.93	
WS-14	Chatsworth	1878.91	04/15/2016	304.49	1574.42	

TABLE 3
WATER LEVEL DATA, SECOND QUARTER 2016
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

NOTES AND ABBREVIATIONS

BTOC = below top of casing.

MSL = Mean Sea Level.

(I) = Incompatible with use of pressure transducer

(T) = Pressure transducer installed on artesian well

ECW = End cap water - residual water stranded in the well casing end cap; not representative of water level in formation (well is effectively dry)

UTM = Unable to measure

-- = No data available or not applicable

Chatsworth = Chatsworth Formation groundwater unit

Shallow = Near-surface groundwater unit

(*) = Unable to measure due to the following:
FDP-835 - dense and extensive poison oak
OS-02 - Artesian flow observed
OS-03 - Artesian flow observed
OS-04 - Artesian flow observed
OS-05 - Artesian flow observed
OS-09 - Artesian flow observed
OS-16 - well head configuration does not allow gauging - no downhole access
OS-24 - partially removed FLUTe system prevents water level measurements
RD-72 - connected to GWIM system - unable to lower water level meter probe beyond electrical cable

(**) = Measured by other party:
RD-50 - measured by DOE

Static water level elevations were calculated using the following equation:

$E_W = E - D + C$

Where:

E_W = Elevation of water above mean sea level (feet)
E = Elevation above mean sea level at point of measurement (feet)
D = Depth to water (feet)
C = Calibration correction factor (feet)

TABLE 3
WATER LEVEL DATA, SECOND QUARTER 2016
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

(1) = Westbay installed in well. Water levels measured by wireline probe are provided for the wells listed b
A "Port" is a section of the Westbay that includes a measuring port and a pumping port.
A pumping port enables the zone to be purged.
A "QA" interval is a section of the Westbay that only has a measuring port. This interval can be sample but not purged.

Well	Port	Zone Length (feet BTOC)	Measuring Point Elevation (feet above MSL)	Date	Depth to Water (feet BTOC)	Piezometric Water Level Elevation (feet above MSL)
OS-09R	Port 01	30.75 - 41.88	1018.07	4/14/2016	0.31	1017.76
	Port 02	44.88 - 53.91		4/14/2016	0.06	1018.01
	QA-01	56.91 - 61.95		4/14/2016	0.10	1017.97
	Port 03	64.95 - 89.97		4/14/2016	-11.66	1029.73
	QA-02	92.97 - 96.98		4/14/2016	-11.72	1029.79
	Port 04	99.98 - 129.00		4/14/2016	-11.76	1029.83
	Port 05	132.00 - 147.01		4/14/2016	-12.97	1031.04
	Port 06	150.01 - 175.03		4/14/2016	-13.55	1031.62
	Port 07	178.03 - 201.04		4/14/2016	-15.01	1033.08
	Port 08	204.04 - 218.07		4/14/2016	-15.00	1033.07
	Port 09	221.07 - 245.08		4/14/2016	-12.37	1030.44
	QA-03	248.08 - 252.09		4/14/2016	-14.35	1032.42
	Port 10	255.09 - 277.10		4/14/2016	-14.53	1032.60
	Port 11	280.10 - 292.13		4/14/2016	-15.74	1033.81
	Port 12	295.13 - 307.13		4/14/2016	-16.39	1034.46
	Port 13	310.13 - 337.17		4/14/2016	-17.66	1035.73
	Port 14	340.17 - 357.18		4/14/2016	-27.11	1045.18
	Port 15	360.18 - 377.19		4/14/2016	-28.30	1046.37
	Port 16	380.19 - 408.75		4/14/2016	-42.87	1060.94

TABLE 3
WATER LEVEL DATA, SECOND QUARTER 2016
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

Well	Port	Zone Length (feet BTOC)	Measuring Point Elevation (feet above MSL)	Date	Depth to Water (feet BTOC)	Piezometric Water Level Elevation (feet above MSL)
RD-31	QA-01	29.5-182.5	1944.55	4/14/2016	141.62	1802.93
	Port 01	185.5-200.5		4/14/2016	141.70	1802.85
	Port 02	203.5-218.5		4/14/2016	141.68	1802.87
	QA-02	221.5-228.5		4/14/2016	141.76	1802.79
	Port 03	231.5-242.5		4/14/2016	141.77	1802.78
	QA-03	245.5-248.5		4/14/2016	141.86	1802.69
	Port 04	251.5-264.5		4/14/2016	141.88	1802.67
	QA-04	267.5-271.5		4/14/2016	141.85	1802.70
	QA-05	274.5-278.5		4/14/2016	141.77	1802.78
	Port 05	281.5-289.5		4/14/2016	141.90	1802.65
	QA-06	292.5-294.5		4/14/2016	141.98	1802.57
	QA-07	297.5-304.5		4/14/2016	142.00	1802.55
	QA-08	307.5-309.5		4/14/2016	141.90	1802.65
	QA-09	312.5-319.5		4/14/2016	141.96	1802.59
	Port 06	322.5-335.5		4/14/2016	141.97	1802.58
	QA-10	338.5-350.5		4/14/2016	142.06	1802.49
	QA-11	353.5-357.5		4/14/2016	180.98	1763.57
	QA-12	360.5-369.5		4/14/2016	181.01	1763.54
	Port 07	372.5-386.5		4/14/2016	181.06	1763.49
	QA-13	389.5-392.5		4/14/2016	181.04	1763.51
	Port 08	395.5-404.5		4/14/2016	181.20	1763.35
	QA-14	407.5-418.5		4/14/2016	179.91	1764.64
	QA-15	421.5-428.5		4/14/2016	181.23	1763.32
	QA-16	431.5-440.5		4/14/2016	181.08	1763.47
	Port 09	443.5-455.5		4/14/2016	181.10	1763.45
	QA-17	458.5-462.5		4/14/2016	208.91	1735.64
	Port 10	465.5-475.5		4/14/2016	221.00	1723.55
	QA-18	478.5-482.5		4/14/2016	221.22	1723.33
	QA-19	485.5-490.5		4/14/2016	221.35	1723.20
	QA-20	493.5-496.5		4/14/2016	221.37	1723.18
	Port 11	499.5-506.5		4/14/2016	220.24	1724.31
	QA-21	509.5-515.5		4/14/2016	219.51	1725.04
	QA-22	518.5-520.5		4/14/2016	222.93	1721.62
	Port 12	523.5-536.5		4/14/2016	222.83	1721.72

TABLE 4
WELL RETROFITS AND CHANGES IN MEASURING POINT ELEVATIONS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

MEASURING POINT ELEVATION CHANGES					
Well ID	**Date Surveyed**	**Retrofit Date**	**Previous Measuring Point Elevation (ft MSL)**	**Elevation Change (ft)**	**New Measuring Point Elevation (ft MSL)**
ES-01	1/22/2001	6/30/2011	1782.20	0.50	1782.70 *
ES-14	1/22/2001	6/15/2011	1728.69	-0.84	1727.85 *
ES-17	1/22/2001	3/8/2010	1739.31	-0.07	1739.24 *
ES-26	12/4/1991	2/4/2010	1748.01	0.03	1748.04 *
ES-27	1/22/2001	3/8/2010	1740.67	-0.33	1740.34 *
ES-29	1/22/2001	6/15/2011	1760.47	0.59	1761.06 *
HAR-01	2/27/2013	3/26/2010	1874.13	0.75	1874.88
HAR-03	12/3/1991	3/23/2010	1875.48	-0.13	1875.35 *
HAR-04	2/27/2013	3/23/2010	1873.40	0.35	1873.75
HAR-16	12/3/1991	4/26/2010	1872.31	0.30	1872.61 *
HAR-18	12/22/2014	10/6/2014	1749.41	-2.77	1746.64
HAR-25	12/3/1991	3/16/2010	1889.75	0.25	1890.00 *
HAR-26	4/30/2001	4/26/2010	1763.23	0.23	1763.46 *
HAR-32	1/22/2001	3/23/2010	1736.58	-0.09	1736.49 *
HAR-33	12/4/1991	3/23/2010	1744.66	-0.10	1744.56 *
RD-01	12/3/1991	12/6/2010	1935.89	-0.01	1935.88 *
RD-01	12/3/1991	8/19/2014	1935.88	0.01	1935.89 *
RD-01	12/22/2014	10/6/2014	1935.89	-2.44	1933.45
RD-02	12/14/2010	12/7/2010	1873.92	-0.03	1873.89
RD-03	12/3/1991	4/20/2010	1743.50	0.03	1743.53 *
RD-06	12/3/1991	4/22/2010	1617.21	0.01	1617.22 *
RD-08	4/30/2001	3/30/2010	1763.38	0.32	1763.70 *
RD-10	12/3/1991	8/16/2011	1904.43	0.05	1904.48 *
RD-11	4/30/2001	2/4/2010	1762.65	0.19	1762.84 *
RD-12	2/27/2013	3/18/2010	1762.62	0.50	1763.12
RD-13	12/3/1991	6/28/2011	1840.27	-0.26	1840.01 *
RD-18	12/3/1991	6/28/2011	1839.49	0.02	1839.51 *
RD-32	2/9/1994	1/25/2011	1808.47	-0.50	1808.15 *
RD-35A	8/1/1998	6/16/2011	1908.62	-0.70	1907.92 *
RD-35A	12/16/2015	4/27/2015	1907.92	0.57	1907.35
RD-35B	1/18/1999	6/30/2011	1905.65	-0.11	1905.54 *
RD-36A	2/27/2013	3/25/2010	1913.09	-0.06	1913.03
RD-36B	8/1/1998	3/10/2010	1915.26	0.28	1915.54 *
RD-36C	12/14/2010	3/9/2010	1913.82	-0.02	1913.80
RD-36D	8/1/1998	3/9/2010	1920.08	0.15	1920.23 *
RD-37	1/28/1994	2/4/2010	1870.01	-0.40	1869.61 *
RD-38A	2/1/1999	3/9/2010	1879.47	0.15	1879.62 *
RD-38B	12/15/1998	4/29/2010	1881.45	-0.49	1880.96 *
RD-39A	2/2/1994	3/10/2010	1960.23	0.30	1960.53 *
RD-39B	8/1/1998	3/16/2010	1959.48	0.25	1959.73 *
RD-43A	2/27/2013	3/24/2010	1680.16	0.88	1681.04
RD-43B	10/25/1994	4/29/2010	1680.21	-0.10	1680.11 *
RD-43C	10/10/1994	3/9/2010	1679.31	0.80	1680.11 *
RD-44	3/13/1993	1/25/2011	2035.92	0.12	2036.04 *
RD-45A	2/27/2013	8/13/2010	1841.59	-3.47	1838.12
RD-45B	9/11/1994	5/4/2010	1840.09	-0.08	1840.01 *
RD-45C	8/26/1994	5/3/2010	1835.74	0.59	1836.33 *
RD-46A	2/1/1999	3/16/2010	1806.13	0.12	1806.25 *
RD-46A	2/1/1999	8/19/2014	1806.25	-0.12	1806.13 *
RD-46A	12/22/2014	10/6/2014	1806.13	-2.54	1803.59

TABLE 4
WELL RETROFITS AND CHANGES IN MEASURING POINT ELEVATIONS
SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA

MEASURING POINT ELEVATION CHANGES (continued)

Well ID	Date Surveyed	Retrofit Date	Previous Measuring Point Elevation (ft MSL)	Elevation Change (ft)	New Measuring Point Elevation (ft MSL)
RD-46B	12/19/1998	3/16/2010	1807.19	-0.26	1806.93 *
RD-48A	3/15/1993	3/15/2010	1736.54	0.07	1736.61 *
RD-48B	5/26/1993	3/29/2010	1735.40	0.33	1735.73 *
RD-48C	5/16/1993	4/28/2010	1734.95	0.15	1735.10 *
RD-51A	7/11/1991	3/29/2010	1832.51	0.33	1832.84 *
RD-51B	7/11/1991	4/30/2010	1832.68	0.08	1832.76 *
RD-51C	7/9/1991	7/13/2010	1831.65	-0.09	1831.56 *
RD-52A	1/25/1993	3/16/2010	1755.09	0.08	1755.17 *
RD-52B	12/6/1993	2/10/2010	1712.15	0.00	1712.15 *
RD-52C	11/29/1993	3/17/2010	1712.83	0.32	1713.15 *
RD-53	12/3/1991	3/17/2010	1909.19	0.14	1909.33 *
RD-55A	5/1/2001	3/8/2010	1756.87	-1.09	1755.78 *
RD-55B	4/19/1993	3/8/2010	1757.19	-0.04	1757.15 *
RD-58A	2/1/1993	2/4/2010	1756.11	-0.09	1756.02 *
RD-58B	8/28/1994	3/11/2010	1761.34	0.13	1761.47 *
RD-58C	8/9/1994	3/11/2010	1759.59	-0.40	1759.19 *
RD-60	1/21/1993	6/15/2011	1870.40	-0.52	1869.88 *
RD-61	1/1/2004	1/19/2011	1845.87	-0.13	1845.74 *
RD-62	5/6/1994	1/21/2011	1837.20	0.07	1837.27 *
RD-66	7/28/1997	1/18/2011	1730.79	0.27	1731.06 *
RD-67	9/19/1997	1/19/2011	1901.71	-0.05	1901.66 *
RD-71	7/27/1997	12/1/2010	1740.02	0.00	1740.02 *
RD-72	9/9/2015	8/7/2015	1907.25	-3.41	1903.84
RD-75	12/14/2010	12/7/2010	1613.30	-0.23	1613.07
RD-76	12/3/2003	1/19/2011	1772.27	0.11	1772.38 *
RD-77	1/16/2004	3/10/2010	1918.48	0.12	1918.60 *
RD-78	1/16/2004	12/1/2010	1819.84	-0.26	1819.58 *
RD-84	4/18/2015	4/10/2015	1907.83	-5.27	1902.56
RD-84	9/9/2015	6/5/2015	1902.56	0.14	1902.70
RD-85	8/24/2004	6/27/2011	1849.09	0.27	1849.36 *
RD-86	8/24/2004	6/27/2011	1830.51	-0.15	1832.16 *

NOTES AND ABBREVIATIONS

* - not surveyed
ft - foot
ft MSL - feet above mean sea level

APPENDICES

APPENDIX A

STATUS REPORT - SEEPS IN THE VICINITY OF WS-09A

HARGIS + ASSOCIATES, INC.
HYDROGEOLOGY • ENGINEERING

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July 13, 2016

VIA EMAIL

Mr. Mike Bower
THE BOEING COMPANY
Santa Susana Field Laboratory
5800 Woolsey Canyon Road
Canoga Park, CA91304

Re: Status Report April through June 2016,
Seeps in Vicinity of WS-9A, Santa Susana Field Laboratory, Ventura County, California

Dear Mr. Bower,

This letter reports the status of The Boeing Company's (Boeing's) and the National Aeronautics and Space Administration's (NASA's) recent activity at the subject seeps from April 1 through June 30, 2016.

Boeing and NASA continued to perform weekly inspections of the seeps alternating monthly from April 1 through June 30, 2016. During this period, a combined total of 0 (zero) gallons was pumped from all seeps; 0 (zero) gallons from FDP-881, 0 (zero) gallons from FDP-882, and 0 (zero) gallons from FDP-890.

Per direction of the California Department of Toxic Substances Control, the Interim Groundwater Extraction and Treatment System (Interim GET System) has been off since April 2013. Re-start of the Interim GET System is scheduled for October 2016, following completion of construction activities related to the Interim GET System. The seeps will continue to be monitored and pumped to confirm that operational downtime of extraction well WS-9A does not result in accumulation of water in the seeps.

A total of 0 (zero) gallons of water was extracted from extraction well WS-9A during the period of April through June, 2016, with a total 10,637,797 gallons having been extracted from extraction well WS-9A since October 26, 2009.

Sincerely,

HARGIS + ASSOCIATES, INC.

Christopher Liles, PE
Senior Engineer

CML/jak

cc: Mr. John Parkes, PE, Jacob and Hefner Associates, Inc.
Mr. Steve Reiners, MWH Global
Mr. Jon Freed, CH2M Hill

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